AMENDMENTS TO THE CLAIMS

Claim 1 (cancelled)

Claim 2 (previously presented): A method of compiling a library of expression profiles correlated with a known toxic property of a chemical composition, comprising the steps of:

a) contacting an isolated mammalian embryoid body with a chemical composition;

b) detecting and recording alterations in genomic expression in the mammalian embryoid body in response to the chemical composition compared to genomic expression in a mammalian embryoid body not contacted with the chemical composition, to create a pattern of alterations in genomic expression in the mammalian embryoid body in response to the chemical composition, wherein the pattern is correlated with a known toxic property of the chemical composition; and

c) compiling a library of expression profiles correlated with the known toxic property of the test chemical by repeating steps a) and b) with at least two chemical compositions.

Claim 3 (previously presented): The method of claim 2, wherein the alterations in genomic expression are detected by a label.

Claim 4 (original): The method of claim 3, wherein the label is selected from the group consisting of fluorescent, colorimetric, radioactive, enzyme, enzyme substrate, nucleoside analog, magnetic, glass, latex bead, colloidal gold, and electronic transponder.

Claim 5 (previously presented): The method of claim 2, wherein the genomic expression comprises alterations in gene expression.

Claim 6 (original): The method of claim 5, wherein the alterations in gene expression are detected by a nucleotide hybridization assay.

Claim 7 (previously presented): The method of claim 2, wherein the genomic expression comprises alterations in protein expression.

Claim 8 (previously presented): The method of claim 7, wherein the alterations in protein expression are detected by an immunodetection assay.

Claim 9 (original): The method of claim 7, wherein the alterations in protein expression are detected by a mass spectrometry assay.

Claim 10 (previously presented): The method of claim 2, wherein the isolated mammalian embryoid body is of human.

Claim 11 (previously presented): The method of claim 10, further wherein the chemical compositions are selected from the group consisting of therapeutic agents, neurotoxins, renal toxins, hepatic toxins, toxins of hematopoietic cells, and myotoxins.

Claim 12 (previously presented): The method of claim 10, further wherein the chemical compositions are selected from the group consisting of agents that are toxic to cells of one or more reproductive organs, teratogenic agents and carcinogens.

Claim 13 (previously presented): The method of claim 10, further wherein the chemical compositions are selected from the group consisting of agricultural chemicals, cosmetics, and environmental contaminants.

Claim 14 (previously presented): The method of claim 2, wherein the isolated mammalian embryoid body is of non-human mammal.

Claim 15 (previouisly presented): The method of claim 14, wherein the non-human mammal is rodent.

Claim 16 (previously presented): The method of claim 14, further wherein the chemical compositions are selected from the group consisting of animal therapeutics, neurotoxins, renal toxins, hepatic toxins, toxins of hematopoietic cells, and myotoxins.

Claim 17 (previously presented): The method of claim 14, further wherein the chemical compositions are selected from the group consisting of agents that are toxic to cells of one or more reproductive organs, teratogenic agents and carcinogens.

Claim 18 (previously presented): The method of claim 14, further wherein the chemical compositions are selected from the group consisting of agricultural chemicals, cosmetics, and environmental contaminants.

Claims 19-41 (cancelled)

Claim 42 (previously presented): A method of typing toxicity of a test chemical composition, the method comprising: comparing an expression profile of the test chemical composition with an expression profile of a chemical composition, wherein the expression profile of the chemical composition is correlated with a known toxic property of the chemical composition; wherein the type of toxicity of the test chemical composition is determined by the comparison; and wherein the expression profile of the test chemical composition is created by a method comprising the steps of:

a) contacting a mammalian embryoid body with the test chemical composition; and

b) detecting and recording alterations in genomic expression in the mammalian embryoid body in response to the test chemical composition compared to genomic expression in a mammalian embryoid body not contacted with the test chemical composition, to create a pattern of alterations in genomic expression in the mammalian embryoid body in response to the test chemical composition.

Claim 43 (previously presented): A systematic method of typing toxicity of a test chemical composition, the method comprising: comparing an expression profile of the test chemical composition with a library of expression profiles of chemical compositions, wherein the type of

toxicity of the test chemical composition is determined by the comparison; wherein the library is prepared according to the method of claim 2, wherein the library comprises the expression profiles of at least two chemical compositions, wherein the expression profiles of the chemical compositions are correlated with a known toxic property of the chemical compositions; and wherein the expression profile of the test chemical composition is created by a method comprising the steps of:

a) contacting a mammalian embryoid body with the test chemical composition; and

b) detecting and recording alterations in genomic expression in the mammalian embryoid body in response to the test chemical composition compared to genomic expression in a mammalian embryoid body not contacted with the test chemical composition, to create a pattern of alterations in genomic expression in the mammalian embryoid body in response to the chemical composition.

Claim 44 (previously presented): A method of ranking toxicity of a test chemical composition, the method comprising: comparing an expression profile of the test chemical composition with an expression profile of a chemical composition, wherein the expression profile of the chemical composition is correlated with a known toxic property of the chemical composition; wherein the rank of toxicity of the test chemical composition is determined by the comparison; and wherein the expression profile of the test chemical composition is created by a method comprising the steps of:

a) contacting a mammalian embryoid body with the test chemical composition; and

b) detecting and recording alterations in genomic expression in the mammalian embryoid body in response to the test chemical composition compared to genomic expression in a mammalian embryoid body not contacted with the test chemical composition, to create a pattern of alterations in genomic expression in the mammalian embryoid body in response to the test chemical composition.

Claim 45 (previously presented): A method of ranking toxicity of a test chemical composition, the method comprising: comparing an expression profile of the test chemical composition with a library of expression profiles of chemical compositions, wherein the rank of toxicity of the test chemical composition is determined by the comparison; wherein the library is prepared according to the method of claim 2, wherein the library comprises the expression profiles

of at least two chemical compositions, wherein the expression profiles of the chemical compositions are correlated with a known toxic property of the chemical compositions; and wherein the expression profile of the test chemical composition is created by a method comprising the steps of:

a) contacting a mammalian embryoid body with the test chemical composition; and

b) detecting and recording alterations in genomic expression in the mammalian embryoid body in response to the test chemical composition compared to genomic expression in a mammalian embryoid body not contacted with the test chemical composition, to create a pattern of alterations in genomic expression in the mammalian embryoid body in response to the test chemical composition.

Claim 46 (previously presented): A method of assessing toxicity of a test chemical, the method comprising: assessing toxicity of the test chemical based on comparing a expression profile of the test chemical composition with a library of expression profiles of chemical compositions, wherein the rank or type of toxicity of the test chemical composition is determined by the comparison; wherein the library is prepared according to the method of claim 2, wherein the library comprises the expression profiles of at least two chemical compositions, wherein the expression profiles of the chemical compositions are correlated with a known toxic property of the chemical compositions; and wherein the expression profile of the test chemical composition is created by a method comprising the steps of:

a) contacting a mammalian embryoid body with the test chemical composition; and

b) detecting and recording alterations in genomic expression in the mammalian embryoid body in response to the test chemical composition compared to genomic expression in a mammalian embryoid body not contacted with the test chemical composition, to create a pattern of alterations in genomic expression in the mammalian embryoid body in response to the test chemical composition.

Claims 47-56 (cancelled).